

US EPA ARCHIVE DOCUMENT



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Date: 06/30/06

This DER was originally prepared under contract by Dynamac Corporation (1910 Sedwick Rd., Building 100, Suite B, Durham, NC 27713; submitted 6/02/2006). The DER was reviewed by the Health Effects Division (HED) and revised to reflect current Office of Pesticide Programs (OPP) policies.

### **STUDY REPORT:**

44757207 Vincent, T.; Ediger, K. (1998) Propiconazole and CGA-279202--Magnitude of the Residues in or on Sugar Beet: Final Report: Lab Project Number: 35-97: MW-FR-312-97: MW-FR-313-97. Unpublished study prepared by Novartis Crop Protection, Inc. 372 p.

### **EXECUTIVE SUMMARY:**

In 11 field trials conducted throughout the U.S. in 1997, propiconazole (45% WP) was applied to sugar beets as three broadcast foliar applications during tuber development at 0.11 lb ai/A/application, for a total of 0.33 lb ai/A/season. Applications were made at retreatment intervals (RTIs) of 9-12 days, with the exception of one site, which had RTIs of 6 and 14 days. At one field site in MN, two additional plots were also treated similarly with three applications of propiconazole (WP) at 0.33 and 0.55 lb ai/A/application (3x and 5x rates), to provide samples for a processing study. All applications were made using ground equipment at volumes of 5-32 gal/A, and no adjuvants were included in the spray mixes. Single control and duplicate treated samples of sugar beet roots and tops were harvested from each site at 0 and 21-23 days after the third application (DAT). At two sites, duplicate samples of roots and tops were collected at 0, 7, 14, 21 and 28 DAT to examine residue decline.

Sugar beet root and top samples were stored frozen for up to 9.9 months prior to extraction for analysis. Adequate storage stability data are available to support the storage intervals and conditions for the current field trials.

Combined residues of propiconazole and its 2,4-dichlorobenzoic acid (DCBA) containing metabolites in/on sugar beet roots and tops were determined using an adequate GC/ECD method (Method AG-454B). For this method, residues are extracted and converted to 2,4-DCBA by base hydrolysis and oxidization with  $\text{KMnO}_4$ . Residues of DCBA are then partitioned into diethyl ether:hexane, concentrated, methylated, and cleaned-up using an acidic alumina cartridge. Methylated DCBA is determined by GC/ECD, using external standards, and residues are expressed in parent equivalents. The validated method limit of quantitation (LOQ) is 0.05 ppm, and the limit of detection (LOD) is 0.02 ppm. Concurrent recoveries were conducted and the % recoveries are acceptable.



Following three applications of propiconazole (WP) to sugar beets totaling 0.33 lb ai/A, total propiconazole residues in/on sugar beet roots were <0.05-0.61 ppm at 0 DAT and <0.05-0.12 ppm at 21-23 DAT, and total residues in/on tops were 0.89-5.2 ppm at 0 DAT and 0.41-2.9 ppm at 21-23 DAT. Average residues in/on roots and tops were respectively 0.09 and 2.52 ppm at 0 DAT and 0.04 and 1.10 ppm at 21-23 DAT. The highest average field trial (HAFT) residues in/on roots and tops were respectively 0.57 and 5.1 ppm at 0 DAT and 0.08 and 2.9 ppm at 21-23 DAT

Residues in/on roots and tops from the 3x rate test were respectively 0.21 and 5.8 ppm at 0 DAT and <0.05 and 1.3 ppm at 23 DAT, and residues in/on roots and tops from the 5x rate test were respectively 0.41 and 13.7 ppm at 0 DAT and 0.10 and 2.0 ppm at 23 DAT.

In the two residue decline tests, residue levels in/on roots were low and remained relatively steady from 0 to 28 DAT, averaging 0.053 ppm at 0 DAT, 0.064 ppm at 14 DAT, and 0.054 ppm at 28 DAT. However, residues in/on tops declined steadily at longer post-treatment intervals, averaging 2.68 ppm at 0 DAT, 1.15 ppm at 14 DAT and 0.68 ppm at 28 DAT.

The number of trials and the geographic representations are adequate. These field trial data will support the use of propiconazole (WP) on sugar beets as up to three broadcast foliar applications at 0.11 lb ai/A/application, at a minimum RTI of 10 days, for a total of 0.33 lb ai/A/season, with either a 0 or 21 day pre-harvest interval.

#### **STUDY/WAIVER ACCEPTABILITY/DEFICIENCIES/CLARIFICATIONS:**

Under the conditions and parameters used in the study, the sugar beet field trial residue data are classified as scientifically acceptable. The acceptability of this study for regulatory purposes is addressed in the forthcoming U.S. EPA Residue Chemistry Summary Document DP Barcode D238458.

#### **COMPLIANCE:**

Signed and dated Good Laboratory Practice (GLP), Quality Assurance and Data Confidentiality statements were provided. The study author cited minor deviations from GLP compliance, pertaining to the collection of weather data, tank mix storage stability data and maintenance chemicals and irrigation application. None of these deviations affect the overall acceptability of the study.

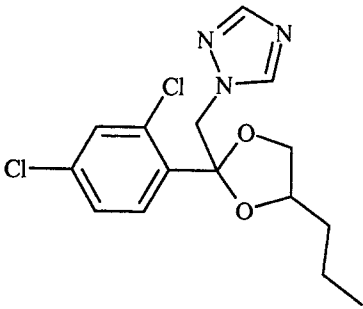


## A. BACKGROUND INFORMATION

Propiconazole is a triazole-type fungicide that provides broad spectrum disease control through inhibition of sterol biosynthesis in fungi. It is registered to Syngenta Crop Protection for the control of fungal diseases on a variety of crops. Tolerances for propiconazole are currently established for the combined residues of propiconazole and its metabolites determined as 2,4-dichlorobenzoic acid (expressed as parent) in/on a variety of plant and animal commodities [40 CFR §180.434(a)].

Syngenta has submitted at petition (PP#2F6371) proposing tolerances and the use of propiconazole on sugar beets. The current submission includes residue data supporting the use on sugar beets of propiconazole, formulated as a 45% WP.

**TABLE A.1. Nomenclature of Propiconazole**

Compound	
Common name	Propiconazole
Company experimental names	CGA-64250
IUPAC name	1-[2-(2,4_dichlorophenyl)-4-propyl-1,3-dioxolan-2-ylmethyl]-1H-1,2,4-triazole
CAS name	1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole
CAS #	60207-90-1
End-use products/EPs	45% WP (Tilt 45W Fungicide, EPA Reg. No. 100-780) 1.04 lb/gal EC (250EC, MAI containing 1.04 lb/gal each of propiconazole and trifloxystrobin)

**TABLE A.2. Physicochemical Properties of Technical Grade Propiconazole.**

Parameter	Value	Reference
Boiling point	120°C at 1.9 Pa, >250°C at 101.325 kPa	MRID No. 43698701
pH	4.9 at 25°C (1% aqueous dispersion)	MRID No. 43698701
Density	1.289 g/cm <sup>3</sup> at 20°C	MRID No. 43698701
Water solubility	0.10 g/L at 20°C	MRID No. 41720301
Solvent solubility (temperature not specified)	Completely miscible in ethanol, acetone, toluene and n-octanol. hexane = 47 g/L	MRID No. 42030201
Vapor pressure	4.2 x 10 <sup>-7</sup> mm Hg at 25°C	MRID No. 41720301
Dissociation constant (pK <sub>a</sub> )	1.09	MRID No. 43698701
Octanol/water partition coefficient Log(K <sub>OW</sub> )	3.72 at pH 6.6 and 25°C	MRID No. 43698701
UV/visible absorption spectrum (λ <sub>max</sub> , nm)	Not available	MRID No. 40583703

## B. EXPERIMENTAL DESIGN

### B.1. Study Site Information

Sugar beets were grown and maintained at each test site using typical agricultural practices for the respective geographical region (Table B.1.1). Monthly rainfall and irrigation data were provided for each site, along with temperature data. No unusual weather conditions were noted that would have an adverse effect on the field trial data. Information was also provided on maintenance chemicals and other pesticides used at each site. Soil types were provided for some sites, but no other soil data were provided. The study use pattern for propiconazole (45% WP) on sugar beets is presented in Table B.1.2.

**TABLE B.1.1. Trial Site Conditions.**

Trial Identification (County, State; Year)	Soil characteristics <sup>1</sup>			
	Type	%OM	pH	CEC <sup>2</sup> (meq/g)
Polk, MN 1997	NR	NR	NR	NR
Polk, MN 1997	NR	NR	NR	NR
Grand Forks, ND 1997	NR	NR	NR	NR
Steele, ND 1997	NR	NR	NR	NR
Blaine, ID 1997	NR	NR	NR	NR
Canyon, ID 1997	NR	NR	NR	NR
Hall, NE 1997	NR	NR	NR	NR
Weld, CO 1997	Sandy Clay Loam	NR	NR	NR
Platte, WY 1997	Sandy Clay Loam	NR	NR	NR
Ottawa, MI 1997	Silt Loam	NR	NR	NR
Yollo, CA 1997	Loam	NR	NR	NR

<sup>1</sup> These parameters are optional except in cases where their value affects the use pattern for the chemical.

<sup>2</sup> Cation exchange capacity.

NR = Not Reported.



**TABLE B.1.2. Study Use Pattern on Sugar Beets.**

Location (County, State; Year) Trial ID	End-use Product	Application Information <sup>1</sup>				
		Method; Timing	Volume (GPA)	Rate (lb ai/A)	RTI (days)	Total Rate (lb ai/A)
Polk, MN 1997 223	45% WP	Three broadcast foliar applications during root enlargement	20	0.11	10	0.33
				0.33		0.99
				0.55		1.65
Polk, MN 1997 224	45% WP	Three broadcast foliar applications during root enlargement	20	0.11	10	0.33
Grand Forks, ND 225/1997	45% WP	Three broadcast foliar applications during root enlargement	20	0.11	10	0.33
Steele, ND 1997 226	45% WP	Three broadcast foliar applications during root enlargement	20	0.11	10	0.33
Yolo, CA 1997 402	45% WP	Three broadcast foliar applications during root enlargement	25	0.11	10, 12	0.33
Blaine, ID 1997 626	45% WP	Three broadcast foliar applications during root enlargement	5	0.11	10	0.33
Canyon, ID 1997 627	45% WP	Three broadcast foliar applications to green plants	32	0.11	6, 14	0.33
Weld, CO 1997 312	45% WP	Three broadcast foliar applications during root development	16	0.11	10	0.33
Platte, WY 1997 313	45% WP	Three broadcast foliar applications during root development	16	0.11	9, 10	0.33
Hall, NE 1997 622	45% WP	Three broadcast foliar applications during root development	20	0.11	10	0.33
Ottawa, MI 1997 731	45% WP	Three broadcast foliar applications 41, 31 and 21 days before harvest	5	0.11	10	0.33

<sup>1</sup> All applications were made using ground equipment, and no adjuvants were included in the spray mixes.

**TABLE B.1.3. Trial Numbers and Geographical Locations.**

NAFTA Growing Zones <sup>1</sup>	Sugar Beets		
	Submitted	Requested	
		Canada	U.S.
1	---	---	---
2	---	---	---
3	---	---	---
4	---	---	---
5	5	---	5
6	---	---	---
7	1	---	1
8	1	---	1
9	1	---	1
10	1	---	2
11	2	---	2
12	---	---	---
Total	11	NA	12

<sup>1</sup> Regions 13-21 and 1A, 5A, 5B, and 7A were not included as the use is for only in the U.S.

NA = Not applicable



## **B.2. Sample Handling and Preparation**

Single control and duplicate treated samples of sugar beet roots and tops (weights unknown) were harvested from each test at 0 and 21-23 DAT. At two sites samples were taken at 1, 7, 14, 21 and 28 DAT to examine residue decline. Samples were frozen shortly after harvest and shipped by freezer truck or overnight courier on dry ice to Novartis Crop Protection (Greensboro, NC), where samples were stored at -20EC until preparation for analysis.

## **B.3. Analytical Methodology**

Samples were analyzed for residues of propiconazole and its DCBA-containing metabolites using a GC/ECD method (Method AG-454B), which is an updated version of the current tolerance enforcement method for propiconazole residues in plant commodities. The method converts all residues to 2,4-DCBA through base hydrolysis and oxidation, and residues are then determined as methylated 2,4-DCBA and expressed in parent equivalents.

For this method, propiconazole residues are extracted by refluxing for 1 hour in  $\text{NH}_4\text{OH}$ /methanol (20:80, v/v), and filtered. Residues are concentrated and oxidized to DCBA by refluxing with  $\text{KMnO}_4$  in 1N NaOH for 75 minutes. After reflux, the extract is diluted with water, the  $\text{KMnO}_4$  is deactivated by the addition of sodium meta-bisulfite, and the extract is acidified by the addition of 6N HCl. Residues of DCBA are partitioned into diethyl ether:hexane (10:90, v/v), evaporated to dryness, and methylated using diazomethane. Residues are then cleaned-up using an acidic alumina Sep-Pak eluted with diethyl ether:hexane (10:90, v/v), and analyzed by GC/ECD using external standards. The validated method LOQ is 0.05 ppm for tops and roots, and the LOD is 0.02 ppm.

Summary tables of the residue data were corrected by the registrant for procedural recoveries of <100%; however, spreadsheets including the uncorrected residue values were available in the raw data and were used by the reviewer to report residue values.

In conjunction with the analysis of field trial samples, the above method was validated using control samples fortified with propiconazole at 0.05-0.50 ppm for roots and at 0.05-20 ppm for tops.

## **C. RESULTS AND DISCUSSION**

In 11 field trials conducted throughout the U.S. in 1997, propiconazole (45% WP) was applied to sugar beets during root development as three broadcast foliar applications at 0.11 lb ai/A/application, for a total of 0.33 lb ai/A/season. Applications were made at RTIs of 9-12 days, with the exception of one site, which had RTIs of 6 and 14 days.



At one field site in MN, two additional plots were also treated similarly with propiconazole (WP) at 0.33 and 0.55 lb ai/A/application (3x and 5x rates), to provide samples for a concurrent processing study, which is reported in 44757201.der2. All applications were made using ground equipment at volumes of 5-32 gal/A, and no adjuvants were included in the spray mixtures. Single control and duplicate treated samples of sugar beet roots and tops were harvested from each site at 0 and 21-23 DAT. In the exaggerated use tests (3x and 5x), single bulk treated samples of roots and tops were collected at 0 and 23 DAT. At two sites, samples were collected at 0, 7, 14, 21 and 28 days to examine residue decline.

The GC/ECD method (Method AG-454B) used to determine propiconazole residues in/on sugar beet roots and tops was adequately validated in conjunction with the analysis of field trial samples. The recovery of propiconazole averaged  $81 \pm 15\%$  from sugar beet roots and  $83 \pm 12\%$  from sugar beet tops (Table C.1). Apparent residues of propiconazole were <LOQ on all control samples for roots and tops. The validated method LOQ for propiconazole is 0.05 ppm, and the LOD is 0.02 ppm. Adequate sample calculations and example chromatograms were provided.

Sugar beet root and top samples were stored frozen for up to 9.9 months prior to extraction for analysis (Table C.2). Adequate storage stability data are available indicating the fortified residues of propiconazole and its metabolites are stable for up to 10 months at  $-20^{\circ}\text{C}$  in carrots (DP Barcode D279300, Y. Donovan, 8/18/05). These data will support the storage intervals and conditions for the current field trials.

Following three applications of propiconazole (45% WP) to sugar beets totaling 0.33 lb ai/A, total propiconazole residues in/on roots were <0.05-0.61 ppm at 0 DAT and <0.05-0.12 ppm at 21-23 DAT (Table C.3), and total residues in/on tops were 0.89-5.2 ppm at 0 DAT and 0.41-2.9 ppm at 21-23 DAT. Average residues in/on roots and tops were respectively 0.09 and 2.52 ppm at 0 DAT and 0.04 and 1.10 ppm at 21-23 DAT (Table C.4.1).

In 3x rate test, residues in/on roots and tops were respectively 0.21 and 5.8 ppm at 0 DAT and <0.05 and 1.3 ppm at 23 DAT (Table C.3). In the 5x rate test, residues in/on roots and tops were respectively 0.41 and 13.7 ppm at 0 DAT and 0.10 and 2.0 ppm at 23 DAT.

In the two residue decline tests, residue levels in/on roots were low and remained relatively steady from 0 to 28 DAT, averaging 0.053 ppm at 0 DAT, 0.064 ppm at 14 DAT, and 0.054 ppm at 28 DAT (Table C.4.2). However, residues in/on tops declined steadily at longer post-treatment intervals (Figure C.1). Average residues in/on tops were 2.68 ppm at 0 DAT, 1.15 ppm at 14 DAT and 0.68 ppm at 28 DAT.

Common cultural practices were used to maintain plants, and the weather conditions and the maintenance chemicals and fertilizer used in the study did not have a notable impact on the residue data



<b>TABLE C.1. Summary of Method Recoveries of Propiconazole from Sugar beet Roots and Tops.</b>					
Analyte	Matrix	Spike level (ppm)	Sample size (n)	Recoveries (%)	Mean $\pm$ std dev (%)
Propiconazole	Roots	0.05-0.5	29	78, 77, 109, 105, 84, 104, 88, 86, 84, 92, 73, 104, 83, 77, 70, 65, 64, 76, 84, 61, 76, 66, 71, 63, 114, 78, 75, 88, 67	81 $\pm$ 15
	Tops	0.05-20	31	72, 86, 90, 95, 88, 70, 71, 110, 77, 70, 95, 89, 87, 85, 95, 76, 84, 83, 75, 89, 79, 70, 82, 78, 81, 70, 73, 76, 118, 71	83 $\pm$ 12

<b>TABLE C.2 Summary of Storage Conditions.</b>			
Matrix	Storage Temperature (°C)	Actual Storage Duration <sup>1</sup> (months)	Interval of Demonstrated Storage Stability (months)
Tops and Roots	-20	9.9	10

<sup>1</sup> From harvest to extraction for analysis.

<sup>2</sup> DP Barcode D279300, Y. Donovan, 8/18/05.

<b>TABLE C.3. Residue Data on Sugarbeet from Field Trials with Propiconazole (EC or WP).</b>							
Trial ID (County, State; Year)	Zone	Variety	End-use Product	Total Rate (lb ai/A)	Commodity	PHI (days)	Total Propiconazole Residues (ppm) <sup>1</sup>
Polk, MN 1997 223	5	ACH 192	45% WP	0.33	Roots	0	<0.05, 0.17
						23	<0.05, 0.07
					Tops	0	2.6, 2.1
						23	0.57, 0.89
				0.99	Roots	0	0.12
						23	<0.05
					Tops	0	5.8
						23	1.3
				1.65	Roots	0	0.41
						23	0.10
					Tops	0	13.7
						23	2.0
Polk, MN 1997 224	5	ACH 310	45% WP	0.33	Roots	0	0.11, 0.05
						7	<0.05, 0.07
						14	<0.05, 0.05
						21	0.06, <0.05
						28	<0.05, 0.14
					Tops	0	1.7, 2.2
						7	0.75, 1.6
						14	0.73, 0.86
						21	0.67, 0.54
						28	0.43, 0.53
					Roots	0	<0.05, <0.05
						21	0.07, 0.05
Grand Forks, ND 1997 225	5	ACH 192	45% WP	0.33	Tops	0	2.8, 2.4
						21	0.76, 0.56
Steele, ND 1997 226	5	ACH 192	45% WP	0.33	Roots	0	<0.05, <0.05
						21	<0.05, <0.05
					Tops	0	2.3, 2.5
						21	0.41, 0.46



**TABLE C.3. Residue Data on Sugarbeet from Field Trials with Propiconazole (EC or WP).**

Trial ID (County, State; Year)	Zone	Variety	End-use Product	Total Rate (lb ai/A)	Commodity	PHI (days)	Total Propiconazole Residues (ppm) <sup>1</sup>
Yolo, CA 1997 402	11	SS-102R	45% WP	0.33	Roots	0	<0.05, <0.05
						7	<0.05, <0.05
						14	0.08, 0.10
						21	<0.05, <0.05
						28	<0.05, <0.05
					Tops	0	3.5, 3.3
						7	1.9, 1.8
						14	1.1, 1.9
						21	1.2, 1.1
						28	1.0, 0.75
Blaine, ID 1997 626	11	BETA 8757	45% WP	0.33	Roots	0	<0.05, <0.05
						21	<0.05, <0.05
					Tops	0	1.7, 1.8
						21	0.50, 0.44
Canyon, ID 1997 627	7	WSPM9	45% WP	0.33	Roots	0	0.52, 0.61
						21	0.05, 0.08
					Tops	0	5.2, 4.9
						21	2.9, 2.8
Weld, CO 1997 312	8	Charger	45% WP	0.33	Roots	0	<0.05, <0.05
						21	<0.05, <0.05
					Tops	0	0.89, 1.5
						21	0.54, 0.85
Platte, WY 1997 313	9	Monohikari	45% WP	0.33	Roots	0	<0.05, <0.05
						21	<0.05, <0.05
					Tops	0	1.2, 1.2
						21	1.3, 2.3
Hall, NE 1997 622	5	HMLS RSS	45% WP	0.33	Roots	0	<0.05, <0.05
						21	<0.05, <0.05
					Tops	0	2.0, 2.1
						21	2.2, 2.0
Ottawa, MI 1997 731	10	E-4	45% WP	0.33	Roots	0	<0.05, <0.05
						21	<0.05, <0.05
					Tops	0	3.0, 4.6
						21	0.5, 0.73

Total propiconazole residues were determined as DCBA and expressed in parent equivalents. Reported values were obtained from the raw data and are not corrected procedural recoveries. The LOQ for propiconazole residues is 0.05 ppm in/on roots and tops, and the LOD is 0.02 ppm.

**TABLE C.4.1 Summary of Residue Data from Sugar Beet Field Trials with Propiconazole (45% WP).**

Commodity	Total Applic. Rate (lb ai/A)	PHI (days)	Residue Levels (ppm) <sup>1</sup>						
			n	Min.	Max.	HAFT <sup>2</sup>	Median (STMdR) <sup>3</sup>	Mean (STMR) <sup>3</sup>	Std. Dev.
Root	0.33	0	22	<0.05	0.61	0.565	0.025	0.086	0.160
		21-23	22	<0.05	0.08	0.065	0.025	0.035	0.018
Tops	0.33	0	22	0.89	5.20	5.05	2.25	2.52	1.17
		21-23	22	0.41	2.90	2.85	0.75	1.10	0.80

The LOQ is 0.05 ppm. Residue data are not corrected for procedural recoveries. For calculation of the median, mean and standard deviation, 1/2 LOQ (0.025 ppm) was used for root samples with residues <LOQ.

<sup>2</sup> HAFT = Highest Average Field Trial.

<sup>3</sup> STMdR = Supervised Trial Median Residue; STMR = Supervised Trial Mean Residue.



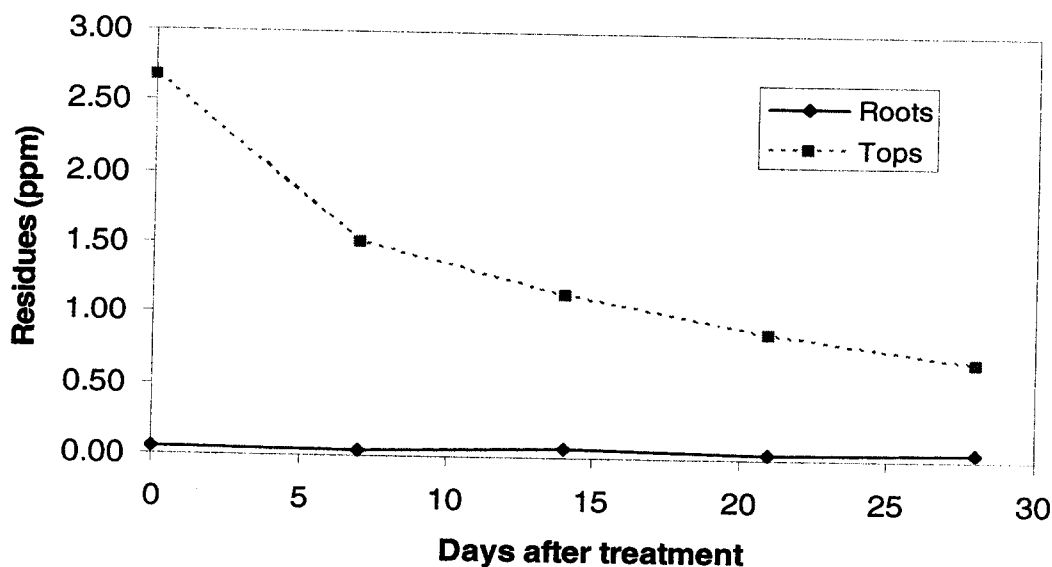
Commodity	Total Applic. Rate (lb ai/A)	PHI (days)	Residue Levels (ppm) <sup>1</sup>						
			n	Min.	Max.	HAFT <sup>2</sup>	Median (STMdR) <sup>3</sup>	Mean (STMR) <sup>4</sup>	Std. Dev.
Root	0.33	0	4	<0.05	0.11	0.080	0.038	0.053	0.040
		7	4	<0.05	0.07	0.048	0.025	0.036	0.023
		14	4	<0.05	0.10	0.090	0.065	0.064	0.033
		21	4	<0.05	0.06	0.043	0.025	0.034	0.018
		28	4	<0.05	0.14	0.083	0.025	0.054	0.058
Tops	0.33	0	4	1.70	3.50	3.40	2.75	2.68	0.87
		7	4	0.75	1.90	1.85	1.70	1.51	0.52
		14	4	0.73	1.90	1.50	0.98	1.15	0.53
		21	4	0.54	1.20	1.15	0.89	0.88	0.32
		28	4	0.43	1.00	0.88	0.64	0.68	0.25

The LOQ is 0.05 ppm. Residue data are not corrected for procedural recoveries. For calculation of the median, mean and standard deviation, ½LOQ (0.025 ppm) was used for root samples with residues <LOQ.

<sup>2</sup> HAFT = Highest Average Field Trial.

<sup>3</sup> STMdR = Supervised Trial Median Residue; STMR = Supervised Trial Mean Residue.

**Figure C.1 Average Residues in or on Sugar Beet Roots and Tops Over Time.**



## D. CONCLUSION

The sugar beet field trial data are adequate and will support the use of propiconazole (WP) on sugar beets as up to three broadcast foliar applications during root development at 0.11 lb ai/A/application, at a minimum RTI of 10 days, for a total of 0.33 lb ai/A/season, with either a 0 or 21 day pre-harvest interval.



## **E. REFERENCES**

DP Barcode: D279300

Subject: Propiconazole (122101): Reregistration Eligibility Decision (RED) Document;  
Residue Chemistry Considerations.


From: Y. Donovan

To: S. Lewis/J. Guerry

Dated: 8/18/05

MRID: None

## **F. DOCUMENT TRACKING**

 Yan Donovan, RRB4/HED

Petition Number(s): 2F6371

DP Barcode(s): D238458

PC Code: 122101

Template Version June 2005